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10/743,375	12/23/2003	Kiyohisa Ichino	Q79111	8962

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EXAMINER

LIU, BEN H

ART UNIT	PAPER NUMBER
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2609

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/743,375

Applicant(s)

ICHINO, KIYOHISA

Examiner

Ben H. Liu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 23 December, 2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-10 are objected to because of the following informalities:

In claim 1, it appears the limitation "said blocks" in lines 3, 5 and 10 refers to the "continuous blocks of a fixed length" in line 2. If that is the case, it is suggested that the applicant change the phrase to "said continuous block."

In claim 7, it appears the limitation "said blocks" in line 8 refers to the "core blocks" in line 4. If that is the case, it is suggested that the applicant change the phrase to "said core blocks."

In claim 8, it appears the limitation "said blocks" in lines 6 and 8 refers to the "blocks of a fixed length" in line 1. If that is the case, it is suggested that the applicant change the phrase to "said blocks of a fixed length."

In claim 9, it appears the limitation "said blocks" in lines 6 and 8 refers to the "blocks of a fixed length" in line 1. If that is the case, it is suggested that the applicant change the phrase to "said blocks of a fixed length."

In claim 10, it appears the limitation "said blocks" in lines 9, 11, 13, and 16 refers to the "continuous blocks having a fixed length" in line 1. If that is the case, it is suggested that the applicant change the phrase to "said continuous blocks of a fixed length."

Appropriate correction is required.

Claims 2-6 are objected to since they depend on claim 1.

Claim Rejections - 35 USC § 112

1. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said valid blocks" in lines 6-7. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-2, 4 and 7-13 rejected under 35 U.S.C. 103(a) as being unpatentable over Murase (U.S. Patent 6,388,994).

For claims 1-2, 4, and 7-13, Murase discloses a transmission system, comprising a sending device for converting higher-layer protocol data to continuous blocks of a fixed length,

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inserting idle blocks between said blocks to match the sending rate to the transmission rate of the transmission line, and transmitting (see column 4 lines 42-57) as recited in claim 1, 10, and 12.

The sending device comprises a mapping unit for matching the sending rate to the transmission rate of a transmission path by inserting idle blocks between data blocks and (see column 4 lines 32-36, 49-52) as recited in claim 7. The transmission system further comprises a receiving device for receiving the blocks and the idle blocks from said relay device of the final stage, discarding these idle blocks to extract only said valid blocks, and reconstructing said higher-layer protocol data from said valid blocks (see column 5 lines 5-13) as recited in claim 1, 10, and 12. The receiving device comprises a demapping unit for receiving transmission blocks and idle blocks that have been inserted between these blocks (see column 5 lines 5-13) as recited in claim 9.

Murase discloses all the subject matter of the claimed invention with the exception of the following limitations:

The transmission system comprises at least one stage of relay devices for receiving data blocks having a length of 18 bytes and idle blocks, discarding these idle blocks to extract only the valid blocks, and then inserting idle blocks between said valid blocks to match the sending rate to the transmission rate of the transmission line on the transmission side and transmitting to a prescribed transfer destination as recited in claims 1, 8 and 10.

The sending device generates 18-byte blocks by converting higher-layer protocol data to a length of 133 bits and then adding supplementary information. The receiving device, after extracting only blocks that are valid, removes supplementary information from received blocks

to restore the length of 133 bits, and reconstructs said higher-layer protocol data in accordance with prescribed rules as recited in claim 2, 11, and 13.

The transmission system wherein when the higher-layer protocol data takes the form of frames, the sending device converts said frames to a length of 133 bits by adding null data to the tails of the frames to make the frame length an integer multiple of 16 octets, and adding to each unit of 16 octets five bits of type information indicating the position of that unit within said higher-layer protocol data as recited in claim 4.

The examiner takes official notice that these limitations are well known in the art. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement these limitations with the transmission system as taught by Murase. For the relay device, Murase teaches an ATM switching system connected between the sending and receiving devices comprising of relay stations (see column 5 lines 1-4). These relay stations can include the functions of discarding idle blocks and inserting new idle blocks to match the sending rate of the transmission line. Murase teaches an ATM transmission system which uses 53 octets but can be adapted to process 18 octets.

The relay station as taught by Murase can be implemented by utilizing the sending and receiving devices also taught by Murase as the relay stations of the ATM switching network. The 18-byte format can be implemented by configuring the selector, dummy data generator, and transmission data storage components as taught by Murase to generate data blocks of 18 bytes.

The motivation for using the relay stations as taught by Murase with the functionality of discarding idle blocks and inserting new idle blocks to match the sending rate of the transmission line is to allow transmission from the sending device to the ATM network with one transmission

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rate and from the ATM network to the receiving device using a different transmission rate. The motivation for the sending and receiving devices as taught by Murase to use different block sizes is to allow compatibility with different data connections.

4. Claims 3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murase (U.S. Patent 6,388,994) in view of Mueller (U.S. Patent 7,245,633).

For claims 3, 5, and 6, Murase discloses all the subject matter of the claimed invention with the exception wherein the transmission system uses the Ethernet protocol or 8B/10B code and the sending and receiving devices utilize SONET connections. Mueller from the same or similar fields of endeavor teaches a multiplexing method for combining Gigabit Ethernet signals for transmission through SONET connections by utilizing 8B/10B coding (see column 1 lines 65-67 and column 2 lines 1-11). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the multiplexing method as taught by Mueller with the transmission system as taught by Murase. The method for combining Ethernet signals for transmission through SONET connections utilizing 8B/10B coding as taught by Murase can be easily implemented at layer 1 (see column 1 lines 28-38) through modifications to the sending and receiving devices. The motivation for using the multiplexing method as taught by Mueller is to allow for more efficient use of existing connections.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bornemisza et al. (U.S. Patent 7,154,895) and Ofek et al. (U.S. Patent Application Publication 2002/0018475) are cited to show subject matter pertinent to the claimed inventions.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben H. Liu whose telephone number is (571) 270-3118. The examiner can normally be reached on Monday Through Friday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on (571) 272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read "Tern" or "Ton", with a stylized flourish at the end.

DANG T. TON
SUPERVISORY PATENT EXAMINER